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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,440	12/28/2000	Suk-Won Choi	8733.373.00	6061

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MCKENNA LONG & ALDRIDGE LLP  
1900 K STREET, NW  
WASHINGTON, DC 20006

EXAMINER
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DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	09/749,440	Applicant(s)	CHOI ET AL.
Examiner	Thoi V Duong	Art Unit	2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 16 August 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-10,12-18,20 and 21 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-10,12-18,20 and 21 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Response to Amendment***

1. This office action is in response to the Amendment, Paper No. 8, filed August 16, 2002.

Accordingly, claims 1, 3-5, 10, 12-18, and 20-21 were amended, claims 11 and 19 were cancelled. Currently, claims 1-10, 12-18 and 20-21 are pending in this application.

2. Applicant's arguments with respect to claims 1-10, 12-18 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. Claims 10, 12, and 20 are objected to because of the following informalities: In claim 10, "a monostable the alignment" should be --a monostable alignment--; in claim 12, "according to claim 11" should be --according to claim 10-- since claim 11 was cancelled; and in claim 20, "according to claim 19" should be --according to claim 18-- since claim 19 was cancelled. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-6, 10, 15-18 are rejected under 35 U.S.C. 102(b ) as being anticipated by Nito et al. (USPN 5,214,523).

As shown in Fig. 4, Nito discloses a method of fabricating a liquid crystal display device, comprising:

forming a liquid crystal panel including first and second glass substrates 1a, 2a (col. 5, lines 4-9);

forming a ferroelectric liquid crystal layer between the first and second substrates of the liquid crystal panel (col. 3, lines 6-13); and

cooling the liquid crystal panel to a temperature of a smectic phase so as to produce monostable alignment of the ferroelectric liquid crystal (col. 6, lines 46-52),

wherein the ferroelectric liquid crystal layer includes an anti-ferro electric liquid crystal layer (col. 3, lines 6-13);

wherein the smectic phase includes a chiral smectic C (col. 3, lines 6-13); and

wherein the smectic phase includes a chiral smectic A (col. 6, lines 46-52).

Nito also discloses that a liquid crystal cell with a gap is prepared by using a UV curable adhesive (col. 7, lines 46-48). Accordingly, it is inherent that the liquid crystal panel is irradiated with UV light for curing adhesive.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nito et al. (USPN 5,214,523) in view of Applicant's Prior Art (Fig. 1).

Nito discloses a method of fabricating a LCD device that is basically the same as that recited in claims 7-9 except that the method does not include steps of forming a pixel electrode, a thin film transistor (TFT), and a color filter. Applicant's Fig. 1 Prior Art shows a ferroelectric liquid crystal device which comprises a lower substrate 2 having a TFT and a pixel electrode 14, an upper substrate 4 having a common electrode and a color filter, and a ferroelectric liquid crystal layer 10 interposed between the two substrates. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Nito with the teaching of Applicant's Prior Art by forming a TFT and a pixel electrode on the lower substrate and a color filter on the upper substrate for obtaining an active matrix color display.

8. Claims 2, 12-14, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nito et al. (USPN 5,214,523) in view of McDonnell et al. (USPN 6,151,096).

Nito discloses a method of fabricating a LCD device that is basically the same as that recited in claims 2, 12-14, 20 and 21 except for cooling down the liquid crystal layer below a smectic phase temperature then heating it above the smectic phase temperature. McDonnell discloses a method of fabricating a liquid crystal display device wherein a liquid crystal cell is cooled to room temperature which is below a smectic phase temperature and is subsequently heated to 90 degrees C which is above the smectic phase temperature (col. 10, lines 20-67). McDonnell also discloses that the phase transition temperatures of the liquid crystal cell includes a range around -20 degrees C (col. 10, lines 29-35). Thus, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to modify the method of fabricating a liquid crystal display device of Nito with the teaching of McDonnell by cooling down the liquid crystal layer below a smectic phase temperature then heating it above the smectic phase temperature so as to stabilize the monostable alignment of the liquid crystal molecules.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-

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Art Unit: 2871

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3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

Thoi Duong



  
ROBERT H. KIM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

11/02/2002